SARS Case/Contact Management Flowchart
December 8, 2003

Situation	If…	LHD response	Advice	UDOH notification
Absence of SARS Transmission Worldwide				
Patient hospitalized with radiograhically confirmed pneumonia or acute respiratory distress	No Risk Factors	None	Symptoms of SARS are non-specific. No rapid diagnostic test exists highlighting the need for surveillance to find epi characteristics consistent with SARS	None
Patient hospitalized with radiograhically confirmed pneumonia or acute respiratory distress	One of the following are true: • Travel to mainland China, Hong Kong or Taiwan OR close contact with an ill person with history of recent travel to one of those places. • Employment in a high risk occupation (health care worker with direct pt. contact, laboratory worker in a lab that contains SARS Co-V) • Part of cluster of cases of atypical pneumonia with no alternative diagnosis	If no alternative diagnosis is made within 72 hours, initiate testing for SARS. If positive, reclassify and treat as SARS case.	If the patient answers yes to any of the screening questions, healthcare workers should institute droplet precautions and notify public health.	Patients who meet these criteria are considered RUI 1-3. Please report RUIs to the UDOH Office of Epidemiology

Situation	If…	LHD response	Advice	UDOH notification
SARS Transmission Documented in the World				
SARS case[1]		Daily[7] active surveillance[3] during and 10 days after symptom resolution	Isolate from work/school/household contacts until 10 days following resolution of symptoms[8]	M-F email update to epi@utah.gov, case number (or prelim local NETSS ID#), date, health status, contact made, location of patient, adherence to isolation recommendations
Health Care Worker[2] with definite exposure[6] to SARS case	If no symptoms develop	Daily active surveillance by ICP/LHD for 10 days after exposure	No restrictions on work/school/household, Advise about symptoms, Inform about daily active surveillance	Report to epi@utah.gov at completion of 10 day period
	If EITHER fever[5] OR respiratory symptoms develop	Consult with ICP and UDOH Daily active surveillance for 72 hours or until symptoms resolved.[9]	Strong recommendation to isolate from work/school/household contacts[10]	Report to epi@utah.gov upon occurrence, conclusion, or development of additional symptoms
	If both fever and respiratory symptoms develop – reclassify and treat as SARS case			

Situation	If…	LHD response	Advice	UDOH notification
Non-Health Care Worker with definite exposure[6] to SARS case	If no symptoms develop	Passive surveillance[4] for 10 days after exposure. Recommend one active follow up notification at the end of the 10-day period.	No restrictions on work/school/household, Advise about symptoms, ask them to report if any symptoms occur	Report to epi@utah.gov upon occurrence, conclusion, or development of additional symptoms. The reports can be done for a group.
	If EITHER fever OR respiratory symptoms develop	Daily active surveillance for 72 hours or until symptoms resolved.[9]	Recommend isolation from work/school/ household contacts[10]	Report to epi@utah.gov upon occurrence or development of additional symptoms, or at end of surveillance period.
	If both fever and respiratory symptoms develop – move to SARS suspect case			
People returning from an affected country		No surveillance	No restrictions on work/school/household	
	If LHD or UDOH notified of illness by patient or physician – one symptom – doesn't meet case definition	LHD preliminary investigation of possible case – passive surveillance for 3-5 days, recommend one active follow up notification at the end of the 5 day period.	Recommend isolation from work/school/ household contacts	Report to epi@utah.gov upon occurrence, conclusion, or development of additional symptoms
	If both fever and respiratory symptoms develop – reclassify and treat as SARS case			

[1] Case Definition

Clinical Criteria

Early Illness	Presence of two or more of the following: • Fever (may be subjective) • Chills and rigors • Headache • Diarrhea • Sore throat • Rhinorrhea
Mild to Moderate Respiratory Illness	• Temperature of > 100.4 F (>38 C) [i] AND • One or more clinical findings of lower respiratory illness (e.g. cough, shortness of breath, difficulty breathing)
Severe Respiratory Illness	Meets clinical criteria for mild to moderate respiratory illness AND One or more of the following: • Radiographic evidence of pneumonia • Acute respiratory distress syndrome (ARDS) • Autopsy findings consistent with radiographic evidence of pneumonia or ARDS with no identifiable cause.

Epidemiologic Criteria

Possible Exposure to SARS	One or more of the following exposures during the 10 days before symptom onset • Travel to a foreign or domestic location with documented or suspected recent local transmission of SARS. • Close Contact[ii] with a person with mild-moderate respiratory illness with history of travel in the 10 days before symptom onset to a location with documented or suspected recent local transmission of SARS. [iii]
Likely Exposure to SARS	One or more of the following exposures during the 10 days before onset of symptoms • Close contact[2] with a confirmed SARS case • Close contact[2] with a person with mild-moderate respiratory illness for whom a chain of transmission can be linked to a confirmed SARS case in the 10 days prior to symptom onset.

Laboratory Criteria (Laboratory confirmed if one of the following is met)

ELISA	Detection of serum antibody to SARS CoV by a validated test
RT-PCR	Detection of SARS CoV RNA by a RT-PCR test validated by CDC from: One specimen tested on two occasions • Two specimens from different sources • Two specimens collected from the same source on 2 different days
Cell Culture/RT-PCR	Isolation of SARS Co-V in cell culture from a clinical specimen AND confirmation by RT-PCR using a test validated by CDC

Case Status (determined by using clinical criteria, epi criteria and laboratory criteria)

Status	Clinical Criteria	Epi Criteria	Lab Criteria
RUI-1	Severe respiratory illness	Groups likely to be first affected by SARS[iv] (no clear epi links)	None
RUI-2	Mild-moderate respiratory illness	Possible exposure to SARS	None
RUI-3	Severe respiratory illness	Possible exposure to SARS	None
RUI-4	Early or mild-moderate respiratory illness	Likely exposure to SARS	None
Probable SARS	Severe respiratory illness	Likely exposure to SARS	None
Confirmed SARS	Early, mild-moderate or severe respiratory illness	None	Laboratory Confirmed

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* A measured documented temperature of >100.4º F (>38º C) is preferred. However, clinical judgment should be used when evaluating patients for whom a measured temperature of >100.4º F (>38º C) has not been documented. Factors that might be considered include patient self-report of fever, use of antipyretics, presence of immunocompromising conditions or therapies, lack of access to health care, or inability to obtain a measured temperature. Reporting authorities might consider these factors when classifying patients who do not strictly meet the clinical criteria for this case definition.

. Areas with current documented or suspected community transmission of SARS include mainland China and Hong Kong Special Administrative Region, People.s Republic of China; Singapore; Taiwan; and Toronto, Canada. Hanoi, Vietnam is an area with recently documented or suspected community transmission of SARS.

§ Close contact is defined as having cared for or lived with a person known to have SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a patient known to have SARS. Examples of close contact include kissing or embracing, sharing eating or drinking utensils, close conversation (<3 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or sitting across a waiting room or office for a brief period of time.

¶ Assays for the laboratory diagnosis of SARS-CoV infection include enzyme-linked immunosorbent assay, indirect fluorescent-antibody assay, and reverse transcription polymerase chain reaction (RT-PCR) assays of appropriately collected clinical specimens (Source: CDC. Guidelines for collection of specimens from potential cases of SARS. Available at http://www.cdc.gov/ncidod/sars/specimen_collection_sars2.htm). Absence of SARS-CoV antibody from serum obtained <21 days after illness onset, a negative PCR test, or a negative viral culture does not exclude coronavirus infection and is not considered a definitive laboratory result. In these instances, a convalescent serum specimen obtained >21 days after illness is needed to determine infection with SARS-CoV. All SARS diagnostic assays are under evaluation.

** Asymptomatic SARS-CoV infection or clinical manifestations other than respiratory illness might be identified as more is learned about SARS-CoV infection.

[2] Health care worker that had direct exposure to a suspect SARS case and did not use adequate respiratory protection (ie N95 or P100 mask), or had mucous membrane exposure to body fluids.

[3]Daily contact with person

[4]Advise person to self-monitor for fever, respiratory symptoms, and notify public health for either

[5]Fever must be measured with a thermometer

[6]Definite exposure includes household contact, a health care worker in a room with patient without adequate respiratory protection, or exposure to body fluids, respiratory secretions, urine, or stool without adequate precautions; other exposures may be considered definite exposure based on individual circumstances.

[7]Daily refers to both normal weekdays, as well as weekends and holidays

[8]Symptom resolution is defined as resolution of fever, providing that the cough has resolved or is improving

[9]Surveillance may be discontinued after 72 hours if symptoms have resolved. If symptoms progress or fail to resolve, continue infection control measures and active surveillance as if the patient is a suspect SARS until SARS has been ruled out.

[10]Continue recommended isolation measures until either it has been conclusively demonstrated that the individual doesn't have SARS, or until measures consistent with those recommended for SARS cases have been completed.

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[i] A measured documented temperature of >100.4º F (>38º C) is expected. However, clinical judgment may allow a small proportion of patients without a documented fever to meet this criterion. Factors that might be considered include patient self-report of fever, use of antipyretics, presence of immunocompromising conditions or therapies, lack of access to health care, or inability to obtain a measured temperature. Initial case classification based on reported information may change and reclassification may be required.

[ii] Close contact is defined as having cared for or lived with a person with SARS or having a high likelihood of direct contact with respiratory secretions and/or body fluids of a person with SARS (during encounters with the patient or through contact with materials contaminated by the patient), either during the period the person was clinically ill or within 10 days of resolution of fever. Examples of close contact include kissing or embracing, sharing eating or drinking utensils,

close conversation (<3 feet), physical examination, and any other direct physical contact between persons. Close contact does not include activities such as walking by a person or sitting across a waiting room or office for a brief time.

[iii] Transit through a foreign airport meets the epidemiologic criteria for possible exposure in a situation with a suspected or documented community transmission of SARS in that location (i.e., when a CDC travel advisory is in effect for that location). The surveillance periods for documented or suspected local transmission of SARS in specific locations are available at http://www.cdc.gov/ncidod/sars/casedefinition.htm. Types of locations specified will vary, e.g., country, airport, city, building, or floor of building. The last date a location may be a criterion for exposure for illness onset is 10 days (one incubation period) after removal of that location from CDC travel alert notice. The case-patient's travel should have occurred on or before the last date the travel alert was in place. For assistance in determining appropriate dates, see http://www.cdc.gov/ncidod/sars/travel.htm.

[iv] Consensus guidance between CDC and CSTE on which groups are most likely to be first affected by SARS-CoV should it re-emerge is currently in development. In principle, SARS-CoV infection should be considered *at a minimum* in the differential diagnosis in persons hospitalized with pneumonia or ARDS of suspected but unknown infectious cause who are in any of the following groups: a) health care workers who provide direct patient care; 2) travelers to or persons in close contact in the preceding 10 days with other ill persons who recently (within 10 days of their illness) traveled to mainland China, Hong Kong, or Taiwan; 3) persons who are affected by an outbreak of severe, atypical pneumonia. Dynamic guidelines for identification, evaluation and management of these persons are available at http://www.cdc.gov/ncidod/sars/sarsprepplan.htm